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IN THE CLAIMS

1. (Original) A method of forming a coated part, comprising the step of:
coating a component part with magnesium fluoride; wherein said magnesium fluoride coating has a density of at least about 85% and a purity of at least about 99%, and said coating reduces corrosion of said component part upon exposure to a corrosive environment.
2. (Original) The method of claim 1, wherein said magnesium fluoride coating has a density of between about 85-90%.
3. (Original) The method of claim 1, wherein said magnesium fluoride coating has a density of about 100%.
4. (Original) The method of claim 1, wherein said corrosive environment comprises fluorine.
5. (Original) The method of claim 1, wherein said coating step is performed at a pressure of not more than about 1×10^{-5} torr.
6. (Original) The method of claim 1, wherein said coating step is performed at a temperature of at least about 250°C.
7. (Original) The method of claim 1, wherein said component part comprises aluminum nitride or aluminum.
8. (Original) The method of claim 1, wherein said component part has a surface finish of less than about 10RA.
9. (Original) The method of claim 2, further comprising the step of annealing said coating at a temperature of at least about 600°C.

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10. (New) The method of claim 1, wherein the coating step further comprises:
coating the component part by chemical vapor deposition.
11. (New) The method of claim 10, wherein the coating step is performed at a
temperature of at least about 300 degrees Celsius.
12. (New) The method of claim 1, wherein the coating step further comprises:
coating the component part by physical vapor deposition.
13. (New) The method of claim 12, wherein the coating step is performed at a
temperature of at least about 600 degrees Celsius.
14. (New) The method of claim 12, wherein the coating step is performed in an inert
atmosphere.
15. (New) The method of claim 14, wherein the inert atmosphere comprises
nitrogen.
16. (New) The method of claim 1, wherein the coating has a grain size of less than
about 30 micrometers.
17. (New) The method of claim 1, wherein the coating has a grain size of less than
about 3 micrometers.
18. (New) The method of claim 1, wherein the coating has a thickness of less than
about 2 micrometers.
18. (New) The method of claim 1, wherein the coating has a thickness of less than
about 1 micrometer.